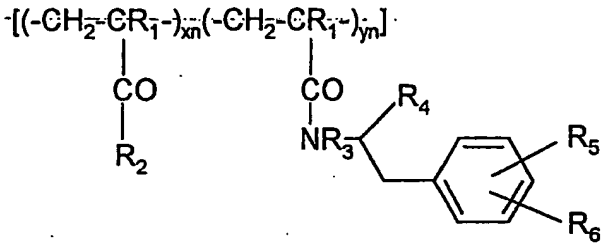
Claims:

1. Polyacrylamide conjugate of the general formula I,



(I)

wherein

R_1 denotes hydrogen or methyl,

R_2 denotes $N(R_7R_8)$ or OH,

R_3 denotes a hydrogen, C_{1-6} alkyl or C_{3-6} cycloalkyl,

R_4 denotes H or COO^-M^+,

R_5, R_6 denote, in each case independently of one another a hydrogen, $SO_3^-M^+$ or $OSO_3^-M^+$,

R_7, R_8 denote, in each case independently of one another, hydrogen, C_{1-6} alcohol, C_{1-6} alkyl, phenyl, benzyl, phenethyl or $N(R_7R_8)$ denotes a $N(CH_2)_{2-6}$ ring that may also be substituted,

n is 20 to 500,

y is from 0.2 to 1.0,

x is 1 - y

M^+ is a physiologically acceptable monovalent cation.

and their diastereomers or enantiomers in the form of their acids or salts of physiologically compatible bases.

2. Polyacrylamide conjugate of claim 1, characterized in that R_1 denotes hydrogen.

3. Polyacrylamide conjugate of claim 1 or 2, characterized in that R_2 denotes $N(R_7R_8)$.

4. Polyacrylamide conjugate according to any of claims 1 to 3, characterized in that R_3 denotes hydrogen.

5. Polyacrylamide conjugate according to any of claims 1 to 4, characterized in that R_4 denotes COO^-M^+.

6. Polyacrylamide conjugate according to any of claims 1 to 5, characterized in that R_6 is hydrogen and R_5 is $SO_3^-M^+$ or $OSO_3^-M^+$ in the meta or para position, preferably in the para position, most preferably R_5 is $OSO_3^-M^+$ in the para position.

7. Polyacrylamide conjugate according to any of claims 1 to 5, characterized in that R_5 and R_6 both denote hydrogen.

8. Polyacrylamide conjugate according to any of claims 1 to 7, characterized in that R_7 is hydrogen and R_8 is a C_{1-6} alkohol, preferably a C_{1-4} alkohol, most preferably ethyl alcohol.

9. Polyacrylamide conjugate according to any of claims 1 to 8, characterized in that the counterion M^+ is selected from the group of Na^+, K^+, NH_4^+, Et_3NH^+, $HO(CH_2)NH_3^+$.

10. Polyacrylamide conjugate according to any of claims 1 to 9, characterized in that n is 20 to 400, preferably 20 to 300, more preferably 20 to 100, most preferably about 20 to 80.

11. Polyacrylamide conjugate according to any of claims 1 to 10, characterized in that y is 0.2 to 0.8, preferably 0.3 to 0.6, more preferably 0.3 to 0.5, most preferably 0.35 to 0.45.

12. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for inhibiting P-selectin *in vitro*.

13. A method for protecting endothelial cells from complement-mediated cytotoxicity comprising the addition of a polyacrylamide conjugate according to any of claims 1 to 11 to said cells *in vitro*.

14. Polyacrylamide conjugate according to any of claims 1 to 11 for use as a medicament.

15. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for protecting endothelial cells from complement-mediated cytotoxicity.

16. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for the prevention and/or treatment of inflammatory reactions towards endothelial cells, preferably endothelial cells involved in arteriosclerosis or chronic heart failure.

17. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for preventing ischemia/reperfusion damage.

18. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for the treatment of cardiac or brain infarction.

19. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for preventing damage to organs during surgery-related ischemia.

20. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for preventing acute vascular rejection reactions.

21. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for preventing acute vascular rejection reactions in ABO-incompatible transplantation or xenotransplantation.

22. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of solutions for safe-keeping of life donor organs for use in transplants.

23. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for use in allogeneic and xenogeneic islet transplantation.

24. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for use in the prevention and/or treatment of HIV infection.

25. Use of a polyacrylamide conjugate according to any of claims 1 to 11 for the preparation of a medicament for use in the prevention and/or treatment of severe sepsis, acute respiratory distress syndrome (ARDS), or septic shock.